

## ABSTRACT

A tie rod with application of polymer composite with fibers reinforcement, constituted by a stem that connects two ball joints, that in its turn are connected to its ends, the body of the ball pins of these ball joints being fixed to different parts or

5 components of a mechanical system with the purpose of transmitting to them angular and rotational movements, supporting the strains that are concentrated thereon. The stem of these tie rods, that constructed based on polymer composite with fibers reinforcement diminish the final weight of the tie rod, increase their mechanical resistance, increase their resistance to fatigue and provide dimensional stability, resistance to corrosion and

10 low concentration of strains. The tie rods may be of fixed length, when the ball joints are attached to their ends by chemical fixing, that due to the process of application, cure and drying assure the resistance required for the purpose to which they are intended, or, they may be of variable length, that are provided with threads at the ends of the stem, the same occurring in the ball joints boxes that are intended to be fixed therein, what allows the

15 adjustment of their length, being the locking of the assembly assured by nuts provided in the threads of the stem that are tightened against the boxes of the ball joints.